In the Claims

1-14. (cancelled)

15. (new) A locking system for a safety switch to monitor a protective device on a machine, comprising:

a read head having a first component set with electric structural components coupled to one of the protective device and the machine;

an actuator having a second component set with electric structural components mounted on the other of the protective device and the machine, said first and second components interacting without electrical contact to control the safety switch;

a switchable electromagnet mounted on one of said read head and said actuator and generating a magnetic field;

a counterelement mounted on the other of said read head and said actuator and operable with said electromagnet to lock said actuator on said read head; and

a sensor element controlling a locking force of said actuator and said read head caused by the magnetic field and having an output signal being a function of the magnetic field generated by said electromagnet.

16. (new) A locking system according to claim 15 wherein

said sensor element generates an analog output signal being a function of an intensity of the magnetic field generated by said electromagnet.

17. (new) A locking system according to claim 15 wherein

magnitudes of said locking force are adjustable.

18. (new) A locking system according to claim 15 wherein

said sensor element measures said magnetic field generated by said electromagnet, and, taking into account geometric configurations and magnetic properties of said read head and said actuator, determines therefrom said locking force between said read head and said actuator.

19. (new) A locking system according to claim 15 wherein

said sensor element is mounted on said actuator.

20. (new) A locking system according to claim 15 wherein

said sensor element is mounted on said read head.

21. (new) A locking system according to claim 15 wherein

said sensor element has two switching states as functions of said magnetic field; and

said second component set is controlled by said switching states of said sensor element.

22. (new) A locking system according to claim 15 wherein

a generator coil is mounted in said actuator to supply electrical energy to said second component set.

23. (new) A locking system according to claim 22 wherein

said sensor element is electrically connected in series to said generator coil.

24. (new) A locking system according to claim 15 wherein

a plurality of sensor elements are mounted in said actuator and are interconnected to monitor locking.

25. (new) A locking system according to claim 15 wherein

said sensor element is mounted by adjusting means to vary positions thereof.

26. (new) A locking system according to claim 15 wherein

said sensor element is a read switch.

27. (new) A locking system according to claim 15 wherein

said sensor element is a Hall element.

28. (new) A locking system according to claim 15 wherein

said electromagnet is rigidly mounted on one of said read head and said actuator;

said counterelement is rigidly mounted on the other of said read head and said actuator; and

a coupling rigidly connects at least one of said counterelement and said electromagnet to a base element, while allowing pivoting relative to said base element.